DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 69.28

WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-006083
Date Inspected: 25-Feb-2009

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island

OSM Arrival Time: 645
OSM Departure Time: 1845
Location: Shanghai, China

CWI Name:	See Below			**CWI Present:**	☑ Yes	☐ No	
Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☑ Yes	☐ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Approved WPS:**	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: Tower Fabrication

Summary of Items Observed:
CWI Inspectors Mr. Chen Shouhua, Mr. Chen Ying Xin, Mr. Wu Ming Kai

On this date CALTRANS OSM Quality Assurance (QA) Inspector Mr. Paul Dawson arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China, for the purpose of monitoring welding and fabrication of the San Francisco / Oakland Bay Bridge (SFOBB) components. The QA Inspector observed the following:

Tower Bay 10

This QA Inspector performed random ultrasonic (UT) inspections of approximately 20 percent length of North Tower Lift 2 Skin D welds NSD1-SA166E/F-3, NSD1-SA166E/F-8, NSD1-SA166E/F-16, NSD1-SA166E/F-19, NSD1-SA166E/F-24, NSD1-SA166D/F-1 and NSD1-SA166D/F-4. These welds had previously been ultrasonically inspected and accepted by ZPMC inspection personnel and the weld is listed on ZPMC Notification of Witness Inspection document 002074. The QA Inspector observed the weld that was ultrasonically inspected by this QA Inspector appears to comply with AWS D1.5 UT requirements. For additional information on this inspection see the TL6027 Ultrasonic Test Report.

The QA Inspector performed random visual inspection of the flux cored welding electrode storage location in near the center of heavy tower bay #10 and the QA Inspector observed ZPMC has one roll of flux cored welding electrode which has had the air tight protective cover removed from the spool of electrode material. The QA Inspector informed ABF and QC personnel this type of electrode should remain in the hermetically sealed

packaging until this material is ready for use, and this welding electrode was discarded. Note: AWS D1.5 paragraph 12.6.7.2 states: "Electrode Packaging. FCAW and GMAW (metal cored) electrodes shall be received in moisture-resistant packages that are undamaged. They shall be protected against contamination and injury during shipment and storage. Electrode packages shall remain effectively sealed against moisture until the electrode is required for use." See the photograph below for additional information.

Tower Bay 11

This QA Inspector performed random ultrasonic (UT) inspections of approximately 20 percent length of East Tower Lift 3 Skin D welds ESD1-FDSA3-2B/C-1A/B, ESD1-FDSA3-2B/C-2A/B, ESD1-FDSA3-2B/C-3A/B , tower Lift 3 Skin C welds ESD1-FCSA3-2B/C-8A/B and ESD1-FCSA3-2B/C-8A/B . These welds had previously been ultrasonically inspected and accepted by ZPMC inspection personnel and the weld is listed on ZPMC Notification of Witness Inspection document 002068. The QA Inspector observed the weld that was ultrasonically inspected by this QA Inspector appears to comply with AWS D1.5 UT requirements. For additional information on this inspection see the TL6027 Ultrasonic Test Report.

The QA Inspector observed ZPMC welder Ms. Xu Yan stencil 052917 is using welding procedure specification WPS-B-T-2231-B-P3-S to make submerged arc groove weld SSD1-FCSA3-1BC-4A. The QA Inspector observed a welding current of approximately 630 amps, 31.0 volts, a welding travel speed of 510 mm per minute and the base material appears to be between 110°C and 230°C. Items observed by the QA Inspector appear to comply with project specifications.

This QA Inspector observed ZPMC welder Mr. Zhang Bing Hua, stencil 053316 is using flux cored welding process to make stiffener plate repairs to tower skin plate WSD1-SA209-D/D-22B. The QA Inspector observed the base material had been preheated using an electrical heater element. The QA Inspector observed ZPMC Quality Control Inspector Mr. Li Haidong measuring Mr. Zhang Bing Hua having a welding current of approximately 285 amps and 31.1 volts. Items observed by this QA Inspector appear to be progressing in compliance with project specifications.

This QA Inspector observed ZPMC welder Mr. Li Haidong, stencil 047701 is using flux cored welding process to make stiffener plate repairs to tower skin plate WSD1-SA209-D/D-1A. The QA Inspector observed the base material had been preheated using an electrical heater element. The QA Inspector observed ZPMC Quality Control personnel measuring Mr. Li Haidong having a welding current of approximately 305 amps and 29.4 volts. Items observed by this QA Inspector appear to be progressing in compliance with project specifications.

WELDING INSPECTION REPORT

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Summary of Conversations:

See above.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Serge Sinevod phone: 134-8257-0045 , who represents the Office of Structural Materials for your project.

Inspected By:	Dawson,Paul	Quality Assurance Inspector
Reviewed By:	Clifford,William	QA Reviewer